

# Prospective analysis: a way of gaining decision advantage

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# Outline

- Motivation – NATO's COVID-19 Response
- Analytical frameworks – SAS-169
  - Futures framework
  - Military impact framework
- Synthesis
- Decision Advantage



# Introduction

- The SAS 169 Specialist Team studied
  - The military impacts of COVID-19 on the Alliance: Challenges and Opportunities (SAS-169) [1]
- Prospective analysis
- Decision advantage
  - Prospective analysis: in to the future + potential outcomes + recommendations

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STO TECHNICAL REPORT TR-SAS-169

**The Military Impacts of COVID-19 on the Alliance:  
Challenges and Opportunities**  
(Conséquences militaires du COVID-19 sur l'Alliance :  
défis et opportunités)

Final report of SAS-169.

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# SAS-169 Methodology



**Final Report with 10 Key Recommendations focused on operational and strategic level impacts**



*Analysis of the MIF for key impacts, recommendations and cross cutting themes*



*Population of the military impacts framework (MIF) by J-Function looking at the Baseline Future Case*



*Population of Futures Framework to create best case, baseline and worst case futures*



*Development of Futures and Military Impacts Frameworks*

# Futures Framework

Dimensions	Best Case	Baseline	Worst Case
Pandemic	Development of vaccine and treatment successful , pandemic expires by end of 2021	Pandemic endures until end of 2023 before vaccine fully developed, intermediate spikes of infection	No vaccine or treatment by end of 2025, repeated outbreaks of new waves of infection

Economic	Sub-dimensions	Best Case	Baseline	Worst Case
Political				
Social				
Scientific & Technological	Global effect	(GDP, unemployment, national debts, fiscal policies, financial markets)		
Regions	Effect in developing countries			

# Futures Framework

- The analysis conducted within futures framework was published in October 2020, DRDC-RDDC-2020-L205 [2]
- The results stemming from the analysis provided information on the possible impacts to the Security Environment based on the development of the pandemic



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## The Future Impacts of COVID-19 on the North Atlantic Treaty Organization—a Futures Framework

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# Impacts on the Security Environment [3]



1. **Pandemic Effect as an Accelerant *of pre-existing geo-political trends, and***

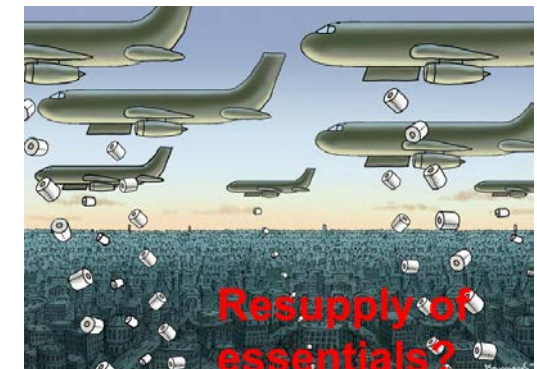
2. **Pandemic Effect as an Aggregation *of second and third order effects,***

An understanding of both is necessary for making the world more secure.

[3] Adlakha-Hutcheon, G. and Johnston, P. (2021) Impacts of Covid-19 on the Security Landscape: looking through a Futures Glass, Presentation to Centre of Excellence for Security, Privy Council Office, Canada

# Military Impacts Framework

- A framework was developed to cover all military functions and areas relative to the Futures Framework
- Decision made to use the Joint Staff (J functions) areas as the top level for the Framework (vs DOTMLPF-I)
  - Common amongst the nations
  - Top-level context for assessing military impact using a ‘bottom-up’ approach, sub categories added
    - NATO Capability Hierarchy
    - ACO training disciplines
    - Cross checked against emerging lessons identified





# Military Impacts Framework

## Functional areas (J1 – J9)

Functions	Best Case	Functional activities
Personnel (J1)	<p><b>Best Case</b></p> <ul style="list-style-type: none"> <li>• Pandemic-driven SOPs (face masks, distancing, etc) end as pandemic expires to</li> <li>• More extensive use of robots etc yield efficiency improvements</li> <li>• More emphasis on epidemic disease in all deployment contingency planning</li> </ul>	Procurement
Intelligence and Security (J2)		Industrial capacity
Operations (J3)		Deployment, redeployment
Logistics (J4)		RSOM/I
Plans (J5)		Infrastructure
Communications & IT (J6)		Supply
Training & exercises (J7)		Maintenance
Finance (J8)		Transport & movement
Civil affairs (J9)		Medical support

*RSOM/I – Reception, Staging, Onward Movement & Integration*

## Synthesis: key recommendations for decision-makers

1. Establish a “pandemic code of conduct” (SOP) relating to headquarters (HQs), deployment and training & exercises;
2. Conduct a thorough analysis of Alliance communication chains;
3. Develop concepts for distributed HQs,
4. Expedite security reviews, modernization, training and due diligence assessments of remote work practices and infrastructure;
5. Assess short-term impacts of modifications to training and exercises on preparedness of military forces and potentially longer-term consequences for readiness and interoperability;
6. Enhance the operational readiness and functional resilience of HQs at all levels,
7. Review the Alliance Crisis Response System (NCRS) and planning processes at all levels;
8. Further enhance Alliance and national abilities to monitor and counter disinformation;
9. Develop alternate/contingency plans to address reductions in defence spending
10. Ensure the creation of a Science and Technology Advisory Group consisting of NATO and national NATO decision makers and national best recognized S&T advice.

*In total, there were 64 distinct recommendations broken down into the nine military function areas.*

## Prospective analysis as a decision enabler

- Prospective analysis: in to the future + potential outcomes + recommendations
- Foresight analysis develops plausible alternate futures with distinguishing evolutions that may emerge
- Foresight analysis enables the development of decisions, policies and strategies to succeed across a range of plausible futures
- Military Impacts Framework used the futures developed to ascertain impacts on NATO J-staff functions and to recommend solutions to a broad range of NATO and National decision makers

## Lessons observed from the SAS-169 Study [4 and 5]

- The specialist team working independently, remotely and virtually analysed and delivered recommendations to support decisions makers in a timely manner
- Bottom-up data capture was essential, it allowed the identification of cross-cutting issues
- Top-down security environment assessment necessary to provide aggregate picture
- The application of near-real time prospective analysis is unique and has been broadly validated by how the pandemic is actually developing
- Publishing the findings partway and in advance of the final report to disseminate information to planning staff was valuable
- Having a diverse range of Nations and NATO bodies as part of the study team provided an objective and broad assessment of issues
- Development of comprehensive frameworks and synthesis allows for recommendations to be developed covering a range of decision makers
  - (NATO to national and Strategic to tactical)

## Summary

- Prospective analysis is essential to help support decision making in an uncertain environment
- One recommendation from the SAS-169 Team to facilitate this in the future:
  - Ensure the ability to rapidly stand up a *“Science and Technology Group for Emergencies consisting of NATO and national experts to aid NATO decision makers and nations with the best recognized S&T advice, operational research/analysis and predictive analytics for decision making in future crises”*.

For example, to provide analysis pertaining to critical functional areas stressed under any civil emergency such as military medical, logistics, strategic communications and civil affairs.

## References

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2. Adlakha-Hutcheon, G. and Johnston, P. (2020) The Future Impacts of COVID-19 on the North Atlantic Treaty Organization— a Futures Framework, DRDC-RDDC-2020-L205.
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## Questions?

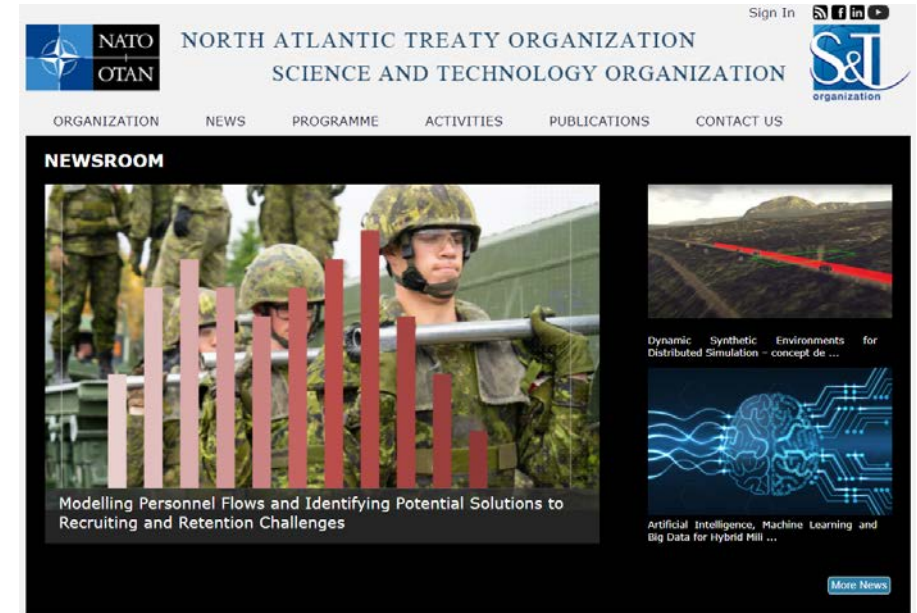
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